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## Adipose (Lipoma) Tumors

These notes are provided to help you understand the diagnosis or possible diagnosis of cancer in your pet. For general information on cancer in pets ask for our handout "What is Cancer". Your veterinarian may suggest certain tests to help confirm or eliminate the diagnosis, and to help assess treatment options and likely outcomes. Because individual situations and responses vary, and because cancers often behave unpredictably, science can only give us a guide. However, information and understanding about tumors and their treatment in animals is improving all the time.

We understand that this can be a very worrying time. If you have any questions please do not hesitate to ask us.

### What is this tumor?

Almost all lipomas, which are tumors of adipose tissue (fat) are slow-growing and benign. These tumors are usually permanently cured by complete surgical removal. Rarely, they may keep growing and cause problems because of their size and infiltration of adjacent structures. A few tumors (**liposarcomas**) are of low grade malignancy so they recur locally. Spread to other parts of the body (metastasis) is extremely rare but there is a syndrome of multiple tumors called lipomatosis.

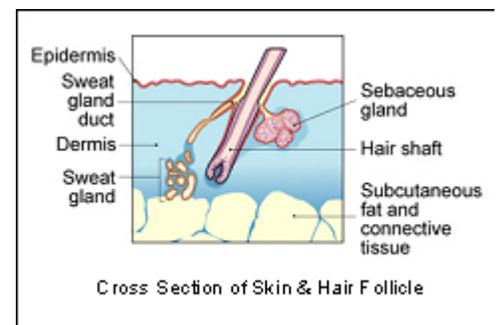
### What do we know about the cause?

The reason why a particular pet may develop this, or any cancer, is not straightforward. Cancer is often the culmination of a series of circumstances that come together for the unfortunate individual.

### Is this a common tumor?

The benign form of adipose tumors is common in dogs, mainly in middle aged to older animals. The tumors are twice as frequent in bitches as in male dogs and occur more often in overweight dogs. The tumors are rare in cats, although again are more common in obese animals.

Infiltrative adipose tumors are uncommon in dogs and rare in cats. They may occur in young dogs. Most recorded cases have been in Labrador Retrievers. Both dogs and cats can have the syndrome of lipomatosis. Malignant tumors are rare.



### How will this cancer affect my pet?

These tumors usually form a soft lump under the skin although they also occur within the abdomen.

"They rarely cause discomfort unless they are large."

They rarely cause discomfort unless they are large. Ulceration and bleeding are rare but large lipomas may necrose (die), causing yellow discoloration of the fat with, in the case of very large ones, toxic effects to make the animal unwell.

Infiltrative tumors may be deep under the skin of the trunk, hip region and upper limbs where they can also occur within the muscle.

The syndrome of lipomatosis affects pendulous, fatty skin folds. Compression of the spinal cord by excess fat deposits has been recorded. Infiltration of a salivary gland may also cause tumor-like swelling of the gland.

## How is this cancer diagnosed?

Clinically, this tumor has a typical appearance but to identify the tumor with more certainty, it is necessary to obtain a sample of the tumor. Various sampling procedures may be needed such as needle aspiration, punch biopsy, full excision biopsy or exploratory surgery (for tumors in the abdomen). Once obtained, the samples will be examined under the microscope, using either cytology or histopathology.

Cytology is the microscopic examination of cell samples sucked (aspirated) from the tumor using a special needle. It is difficult to interpret an aspiration sample for this tumor type because cell yields are low and the cells of the aspirates are identical to those of normal fat. In some cases, with the typical clinical appearance, cytology can give reasonable confirmation of tumor identity.



Histopathology is the microscopic examination of specially prepared and stained tissue sections from actual pieces of the tumor. Your veterinarian will send the biopsy samples to a specialized laboratory where a veterinary pathologist will examine the prepared slides. The information from this examination is more detailed and reliable than cytology. Histopathology is useful to indicate whether there is an underlying cause, and rules out other diseases including more serious cancers. The submitted tissue may be a small part of the mass (biopsy) or the whole lump (excision biopsy). If an excision biopsy was performed, the pathologist will also assess whether the tumor has been completely

removed.

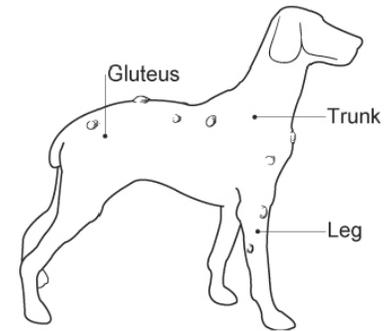
The histopathology report indicates whether a tumor is 'benign' (non-spreading, local growth) or 'malignant' (recurrent) and how the cancer is likely to behave (prognosis).

## What treatment is available?

**"Treatment of lipomas is surgical removal."**

## Can this cancer disappear without treatment?

Cancer rarely disappears without treatment but as development is a multi-step process, it may stop at some stages. Loss of or reduced blood supply to this type of cancer is not uncommon. This will make it die, but the dead tissue will probably still need surgical removal. The body's own immune system can kill cancer cells but it is rarely 100% effective.



## How can I nurse my pet?

Preventing your pet from rubbing, scratching, licking or biting the tumor will reduce inflammation. Any ulcerated area needs to be kept clean.

After surgery, the operation site similarly needs to be kept clean and your pet should not be allowed to interfere with the site. Any loss of sutures or significant swelling or bleeding should be reported to your veterinarian. If you require additional advice on post-surgical care, please ask.

## How or when will I know if the cancer is permanently cured?

'Cured' has to be a guarded term in dealing with any cancer.

The histopathology report will give your veterinarian the diagnosis of the type of tumor. The veterinary pathologist usually adds a prognosis that describes the probability of local recurrence or metastasis (distant spread).

Most of these tumors are benign and are cured surgically. The infiltrative type is sometimes difficult to remove. If a tumor is difficult to remove, or if it regrows after surgical removal, this indicates that the tumor is of this type. Further surgical intervention is successful in preventing recurrence or further spread in more than half the cases of this type of cancer.

Like other soft tissue sarcomas (sarcoma means a malignant tumor), liposarcomas are locally invasive and sometimes recur after surgery. They rarely metastasize or spread to other parts of the body. Poorly differentiated and pleomorphic (literally "multi-form") subtypes are more likely to metastasize.

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may develop at different body sites."**

In the syndrome of lipomatosis, unrelated tumors may develop at different body sites.

## Are there any risks to my family or other pets?

No, this is not an infectious tumor and it is not transmitted from pet to pet or from pet to people.

*This client information sheet is based on material written by: Joan Rest, BVSc, PhD, MRCPath, MRCVS*

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